Attachment 3

WILSHIRE

March 23, 2006

Rosalind M. Hewsenian
Managing Director

Ms. Anne Stausboll
Interim Chief Investment Officer
California Public Employees' Retirement System
400 Q Street
Sacramento, CA 95814

Re: AIM Benchmark

Dear Anne,

You had requested Wilshire's opinion with respect to The Russell Investment Group's (RIG) recommendations regarding the appropriate AIM Benchmark.

- Wilshire recommends that the two tier benchmark structure of a long-term benchmark and short-term benchmark remain, as does RIG.
- We disagree with RIG's recommendation to use a blend of a US and non-US public markets index as the base for the long-term benchmark and that a US public equity benchmark should continue to be used.
- We agree with RIG's recommendation to decrease the risk premium over liquid equity from 500 basis points to 300 basis points as part of the long-term benchmark.
- We disagree with RIG's recommendation to modify the short-term benchmark to be composed of a pooled composite return of the Venture Economics universe, reflecting both short and longer-term horizons. Our recommendation is to leave the current short-term benchmark in force.

Background

RIG was retained by CalPERS to review the AIM benchmark. RIG is a member of the pool of general pension consulting firms. RIG had the following recommendations, which we are quoting directly from its "Draft Two – 11/22/05 CalPERS Alternative Investment (AIM) Program Benchmark" report, provided to us by the CalPERS AIM SIO:

- *CalPERS' two benchmark approach is a rational approach to a challenging exercise. The two benchmark methodology should be maintained as it allows the Program to measure the impact on the System's asset allocation decision and to evaluate the implementation effectiveness of the Investment Staff.*
- *The individual components and focus of each of the two benchmarks can be modified to better reflect the objectives and maturing portfolio*

- *The liquid market index for the long-term benchmark should reflect the actual source of funds. The allocation for private equity came form both domestic and international equity, so this should be reflected in the benchmark.*
- *The 500 basis points premium over liquid equities is significant and a reduction should be considered.*
- *The short-term objective should be modified to reflect a peer relative objective. The program is beginning to mature, and the young fund comparison can be replaced by a pooled composite return of the Venture Economics Universe reflecting both short and longer term horizons.*

Wilshire originally devised the benchmark structure for AIM to consist of both a long-term and short-term component. We also devised the use of a public equity index with a risk premium for the long-term benchmark structure and the use of the Venture Economics Young Fund Universe median on a weighted basis for the short-term benchmark structure.

Discussion

RIG's first recommendation is to maintain the two tier benchmark structure in largely the same manner as it currently exists. Wilshire agrees for all the same reasons RIG has cited.

RIG's second recommendation is to alter the long-term benchmark structure to use a blend of US and non-US public equity indexes since both asset classes were funding sources for AIM. Actually, that is not correct. Both the non-US equity program and the AIM program were established by CalPERS in 1986 and the funding sources were domestic equity and domestic fixed income. However, we believe that the use of a US equity index is still appropriate based on the work Wilshire did and had published on the subject. The referenced article is attached.

RIG's third recommendation is to lower the risk premium over public equity to 300 basis points from 500 basis points. We agree and for the same reasons RIG cites. RIG cites the declining risk premium reflected in the market of private investments over public equity and Wilshire's work has reflected the same phenomenon. Wilshire has reported that to CalPERS every year in its annual report on asset class assumptions. The 2006 report, which has previously been distributed, is attached.

RIG's fourth recommendation is to modify the short-term benchmark in two ways. The first is to use a composite universe of shorter and longer term horizon funds, than just the Young Fund Universe as is currently used. RIG cites the maturation of the CalPERS AIM program as justification. First, the AIM Program is 20 years old. It is mature. Incorporating a longer-term horizon in the short-term benchmark intrudes upon the

purpose of the long-term benchmark. Second, this recommendation does not recognize that the current average life of the AIM program is only 3.7 years, which compares more closely to the Venture Economics Young Fund Universe life of one to four years. It is CalPERS' AIM Program maturity that is contributing to the shorter average life because CalPERS is getting cash back from its earlier vintage year funds faster than it can put that money back to work.

RIG also recommends that the short-term benchmark be modified by altering the universe and the calculation methodology. RIG recommends using the pooled universe return that Venture Economics calculates versus the use of the Young Fund Universe median. The pooled universe return includes all partnership investments, including all the below median partnerships. Using the Young Fund median return as the benchmark provides a stiffer benchmark in that by definition it includes only first and second quartile funds as the comparable universe. Since the short-term benchmark is what is used for incentive compensation award purposes, Wilshire recommends staying with the median return.

RIG further recommends against weighting the components of the Young Fund Universe, i.e. venture capital, buy-outs, etc by the allocation of the AIM program, as is currently done in calculating the short-term benchmark. Doing so, according to RIG, avoids measuring Staff's allocation decisions. While a fair point, the size of CalPERS' AIM program at this stage prevents a significant variation in allocation from what the marketplace, and hence the universe, presents in any vintage year, while still maintaining asset class exposure to the target level as prescribed by CalPERS' asset allocation policy, while seeking to select top quartile funds. Stated another way, deal selection, more so than asset allocation, is going to drive returns as CalPERS cannot radically alter asset allocation within the AIM Program to make a significant, measurable bet away from the market universe and still seek top quartile return funds.

Should you require anything further, please do not hesitate to contact us.

Sincerely,

Benchmarks for Private Market Investments

by Stephen L. Nesbitt, Senior Managing Director
Hal W. Reynolds, Managing Director
Published in *The Journal of Portfolio Management*, Summer 1997

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Introduction

Frustrated by an apparent inability of money managers to outperform market indexes, pension and endowment fund sponsors are looking beyond the public markets for opportunities to enhance returns. Buyout and venture capital funds are the focus of this search for higher returns, forming the nucleus of a burgeoning asset class called private markets. Allocations to private markets for larger funds now average 3% of assets, up from almost nothing 10 years ago, and are as high as 15% of assets for some funds.

Newcomers to the private markets quickly discover that the path to higher returns requires a unique set of skills. Decision tools commonly used for publicly traded stocks and bonds to set asset allocation, measure risk, and evaluate performance are difficult to apply to the private markets. The root of this problem is pricing. Continuous transaction-based pricing, which underlies virtually all modern stock and bond analysis, does not exist for the private markets and renders most traditional analytical methods ineffective.

The institutional real estate experience of the late 1980s is a good example of the damage that can result from attempts to evaluate illiquid investments via methods developed for public markets. Investment statistics based upon appraisal-based real estate indexes underestimate risk and overstate diversification benefits and returns. These characteristics helped to fuel high real estate allocations during the 1980s. Similar attempts are now being made to create buyout and venture capital return indexes from accounting data. Recognizing these faults, experienced investors substitute educated guesses in making return and risk forecasts.

A new methodology for measuring return and risk for buyout investments, the largest category within private markets, will be presented here. It entails re-engineering commonly used stock and bond market indexes to reflect the business and financial risks of buyouts. For example, just as sponsors create growth, value, or small stock benchmarks to evaluate unique manager styles of investing, we show that a blend of public market stock and bond indexes can be formulated to mirror the essential investment characteristics of private markets, in this case, buyout funds. Such a buyout index offers investors credible evidence from which to appropriately assess return and risk.

Methodology

How can public market stock and bond indexes be combined to match the investment characteristics found in a portfolio of buyout companies? The answer is twofold:

1. select an index of publicly-traded stocks with business characteristics similar to buyout companies, and
2. re-engineer the capital structure of the index.

General partners employ various buyout strategies. For example, Kohlberg, Kravis & Roberts (KKR) focuses on restructuring large cap companies, Hicks Muse on middle market companies, Charterhouse on small companies, and ABRY on communication companies. Thus, the first step in creating a benchmark for buyout investments is finding a public market index whose stock holdings are in the same businesses as companies the general partner might acquire. The S&P 500 index or S&P 400 Industrial index might be appropriate benchmarks for KKR and the Russell 2000 index for Hicks Muse. A custom communications sector index could be created for an ABRY investment. Finally, a benchmark for a broad portfolio of buyout investments might be the Wilshire 5000 index.

The second step is to alter, or *re-engineer*, the capital structure of the selected index to reflect the more leveraged structure that general partners impose upon their buyout companies. To accomplish this task, five items are needed: (1) the percentage of corporate assets financed by debt for the selected index, (2) the percentage of corporate

assets financed by debt for the leveraged buyout company, (3) the type(s) of debt used, (4) fixed income index returns which best reflect the type(s) of debt used, and (5) the corporate tax rate.

Let:

B	=	returns on the benchmark buyout index
S	=	returns on the appropriate stock index
F	=	returns on the appropriate fixed income index
DE_S	=	ratio of debt-to-equity for the stock index 'S'
DE_B	=	ratio of debt-to-equity for the more leveraged buyout index 'B'
w_S	=	weighting or units purchased of stock index 'S'
w_F	=	weighting or units purchased of fixed income index 'F'
t	=	corporate tax rate

A custom benchmark index B for a buyout investment or portfolio is constructed as a weighted average of the appropriate stock and after-tax fixed income indexes:

(1) $B = w_S * S + w_F * F * (1-t)$

Our use of the after-tax cost of debt, F*(1-t) in equation (1), gives recognition to the tax deductibility of interest that has made the financing of buyout companies so attractive to shareholders.

The weights assigned to the stock and fixed income indexes are defined by the formulae:

(2) $w_F = (DE_S - DE_B) / (1 + DE_S)$

(3) $w_S = 1 - w_F$

For example, a general partner with a S&P-like large company focus might impose an average debt-to-equity ratio of 3.0 on its acquisitions, which is higher than the 0.64 debt-to-equity ratio for the S&P 500 index as a whole. The custom benchmark index for this general partners portfolio would be a weighted average of the S&P 500 index and the Lehman Corporate Bond index, assuming the added debt could be financed with investment grade corporate debt. The index weightings would be:

$w_F = (0.64 - 3.0) / (1 + 0.64) = -1.44$ equation (2)

$w_S = 1 - (-1.44) = 2.44$ equation (3)

The custom benchmark for a S&P-like buyout company or portfolio, whose only difference is greater use of leverage, is a combined public market index holding 2.44

units of the S&P 500 index and borrowing 1.44 units of the Lehman Corporate Bond index. For example, if the S&P 500 index returned 10%, the Lehman Corporate Bond index returned 6%, and the corporate tax rate was 35%, then the return on a buyout investment with the characteristics described above should be 18.8%.

$$B = 2.44 * 10\% + (-1.44) * 6\% * (1 - 0.35) \qquad \text{equation (1)}$$

$$B = 18.8\%$$

Creating a Buyout Index

In practice, corporate capital structures are considerably more complex than this simple illustration. Companies have both short and long term debt; buyouts cannot issue investment grade bonds, etc. In fact, existing corporate debt is usually downgraded as a result of the buyout. The resulting debt structure is more often a combination of senior LIBOR debt and subordinated high yield debt, whether newly issued or old fallen debt. Exhibit 1 contains a more accurate depiction of pre-buyout and post-buyout capital structures.

Exhibit 1: Capital Structures for Pre- and Post-buyout Companies

	Percent of Pre-buyout Company	Percent of Post-buyout Company	Representative Public Market Indexes
Short-term debt	15%	50%	LIBOR+0.5%,2.75%
Long-term bonds	24	0	Lehman Corporate
High yield bonds	0	25	First Boston High Yield
Equity	61	25	S&P 500, 'Buyout Index'
	100%	100%	

The composition of the pre-buyout capital structure in Exhibit 1 was determined by consolidating the balance sheets of S&P 400 Industrial companies, as reported by Compustat, for each of the past 10 years ending 1995, and averaging these annual results. The post-buyout capital structure was determined from balance sheet data for a sample of 50 buyouts over the past 10 years, and includes the initial buyout financing and subsequent debt pay-down until companies are sold.

Exhibit 1 shows the dramatic increase in the use of debt financing in buyout companies, from 39% of assets for S&P 400 Industrial companies to 75% for buyout companies. Long-term debt ratings change from investment grade to high yield, though the debt proportion of total capital remains roughly the same. Another apparent difference is the greater use of short-term debt by buyout companies. Fifty percent of buyout financing is short-term debt with yields tied to LIBOR.

The last column in Exhibit 1 lists public market indexes which best represent the type of capital being used. Short-term debt is priced at LIBOR plus 0.5% for S&P 400 Industrial companies and at LIBOR plus 2.75% for buyout companies to reflect higher risk. Long-term debt is represented by the Lehman Corporate Bond index for S&P Industrials and by the First Boston High Yield index for buyout companies. We continue to use the more common and investable S&P 500 index to reflect equity returns for potential buyout opportunities. While this presents some inconsistency with the use of the S&P 400 Industrials capital structure, resulting return differences are minor due to the strong similarity of S&P 400 and 500 returns. Thus, a Buyout index can be derived using available public market indexes to represent the behavior of equity ownership in buyout companies, just as in the earlier illustration.

Equations (1), (2), and (3) are readily expandable to accommodate the more complex pre-buyout and post-buyout capital structures (see footnote 1). To illustrate, Exhibit 2 shows the necessary weightings of the representative public market indexes to achieve the business and financial risk characteristics of our Buyout index, reflecting large company buyouts.

Exhibit 2: Public Market Index Weightings Behind the Buyout Index

	Unit Holdings	
S&P 500 index	2.44	(purchase)
LIBOR+0.5%	0.60	(purchase)
Lehman Corporate Bond index	0.96	(purchase)
LIBOR+2.75%	-2.00	(borrow)
First Boston High Yield	-1.00	(borrow)
Buyout index	1.00	

Creating the Buyout index requires purchasing 2.44 units of the S&P 500 index, 0.60 units of LIBOR+0.5% debt, and 0.96 units of the Lehman Corporate Bond index. These purchases are financed by borrowing 2.00 units of LIBOR + 2.75% debt and 1.00 unit of the First Boston High Yield index. Notice that the sum of the units, or weights, equals 1.00 or 100%.

At first glance, it is not obvious how this index mixture will achieve the desired result. It helps to view the S&P 500 index equity holding as being comprised of two parts: (1) an investment in the combined assets of S&P 500 companies, what is termed the unleveraged S&P 500, and (2) corporate debt borrowings, represented in our analysis by short term LIBOR+0.5% debt plus the Lehman Corporate Bond index debt. The 2.44 S&P 500 units become a 4.00 unit purchase of an *unleveraged* S&P 500 together with borrowings of 0.64 units of short term LIBOR+0.5% debt and 0.96 units of the Lehman Corporate Bond index debt. The 0.64 and 0.96 unit borrowings *implicit* in the 2.44 unit holdings of the S&P 500 index is then exactly offset by the debt unit purchases. With

LIBOR+0.5% and investment grade debt stripped away, the 4.00 unleveraged S&P units are refinanced with LIBOR+2.75% and high yield borrowings.

Historical Index Results

Exhibit 3 analyzes return and risk for the Buyout index and its component public market indexes covering the 10-year period ending 1996.

Exhibit 3: Return and Risk for Buyout Index from Jan 1, 1987 to Dec 31, 1996

	Public Market Indexes				
	LIBOR	Lehman Corp	FB High Yield	S&P 500	Buyout Index
Annualized Return	3.5%	9.2%	11.5%	15.3%	23.0%
Standard Deviation	0.5%	5.2%	6.9%	14.4%	34.4%
Beta	0.00	0.13	0.23	1.00	2.35

The Buyout index returned 23.0% per year, almost 8% above the 15.3% return for the S&P 500 index. The higher Buyout index return came from a healthy 4% to 6% positive spread between the S&P 500 index return and fixed income returns, and was made more attractive by the tax deductibility of interest on borrowings. Buyouts also have a high level of risk, commensurate with their high potential return, and is more than most investors realize. Our Buyout index produces an annual return standard deviation equal to 34.4%, versus 14.4% for the S&P 500 index, with a 2.35 beta. Cost-based valuation practices and a vibrant stock market tend to mask this asset categories true volatility.

First-time investors also tend to overstate the diversification benefits of private markets in general. Our Buyout index returns show a very high (0.99) correlation with the S&P 500 index. This should not be surprising. Buyouts differ primarily from publicly traded companies in their aggressive use of debt. Debt leveraging effect amplifies return but does not alter its direction. Correlation is a measure of common direction, not amplitude, and, therefore, a high correlation with public stocks should be expected. Non-diversified buyout portfolios will have a lower correlation because returns will in part come from non-market management- or industry-specific factors. However, in asset allocation analysis, asset class return, risk, and correlation are modeled for diversified portfolios that reflect only the markets systematic risks. Our risk analysis suggests that buyouts should be viewed as a supercharged equity opportunity where the focus is on risk-adjusted return rather than as a portfolio diversification tool.

Eliminating Tax Benefits

One characteristic of a good benchmark is that it be investable. Our Buyout index meets this criterion in all but one important respect. Institutional plan sponsors can duplicate the required long and short index positions shown in Exhibit 2; however, unlike buyout companies, they cannot claim the tax deductibility of interest income. Sponsors enjoy low after-tax interest costs, (1-t) in equation (1), only when debt is acquired within the corporate entity. Otherwise, sponsors pay full interest costs.

Tax deductibility of interest is an important economic benefit general partners of buyout funds provide which sponsors cannot themselves duplicate. Exhibit 4 presents results of a modified Buyout-NT index (NT stands for no tax deduction) that is an alternative benchmark for tax-exempt sponsors to use to evaluate their buyout general partners.

Exhibit 4: Buyout Index Comparisons With and Without Tax Deduction Feature for 10 years ending December 31,1996

	Buyout Index (after-tax interest)	Buyout-NT Index (pre-tax interest)
Annualized Return	23.0%	21.1%
Standard Deviation	34.4%	34.2%
Beta	2.35	2.35

The Buyout-NT index shown in Exhibit 4 incorporates another assumption in addition to the restriction on tax deductibility. We assume that the short term borrowing rate for institutional sponsors is LIBOR+0.5% versus a LIBOR+2.75% rate for general partners. This lower pre-tax interest cost to sponsors serves to partially offset the lower after-tax interest costs available to general partners.

The Buyout-NT index provides tax-exempt fund sponsors with a proper methodology through which to evaluate buyout fund performance over the past 10 years. According to this methodology, general partners should have returned 21.1% per year, or 5.8% above the S&P 500 index. Also, since the index investments necessary for sponsors to replicate the Buyout-NT index involve few costs, comparisons should be made to buyout fund returns that are net of all asset fees and carried interest. According to Venture Economics, a leading survey group of buyout and venture capital performance, over one-quarter of all buyout funds earned returns, after fees and carried interest, above the 21.1% Buyout index 10 year return (see footnote 2).

Performance Evaluation

The Association for Investment Management and Research (AIMR) recommends the internal rate of return (IRR) calculation method for presentation of the performance of single private equity investments because general partners, not sponsors, control the timing of cash flows. Frequent pricing of the component indexes permits the Buyout index to be calculated using either the more common time-weighted method or the IRR method. This makes it a robust performance tool for evaluating individual buyout funds or a sponsors combined buyout portfolio.

Current practice for evaluating an individual buyout fund relies upon comparisons to a universe of other buyout funds with the same starting point or vintage year. Vintage year comparisons have three potential weaknesses. First, buyout funds vary materially in their underlying business and financial profiles, which can profoundly impact relative ranking in a broad universe. Second, the vintage year method classifies funds by year of the initial cash investment or drawdown. This initial drawdown can be small relative to future drawdowns, which can stretch over several years, and this, coupled with the timing of the first year's investment, can make a sizable difference on IRR. For example, vintage 1987 buyout funds investing before and after the October crash do not really belong in the same vintage group. Finally, vintage year returns, by simply comparing private market investments against one another, beg the question of whether they offer long term value-added over public market alternatives. This is an important issue for sponsors who view private markets as a common stock alternative rather than as a separate asset class.

Asset Allocation

The benchmark methodology presented here is useful not only for purposes of general partner evaluation, but also in developing tools through which to incorporate buyout funds into the asset allocation process. Return, risk, and correlation forecasts for buyout fund investments can be created from forecasts for the Buyout-NT indexes component public market indexes. For illustration, Exhibit 5 presents a calculation of an expected return for the Buyout-NT index from commonly used expected returns using the weightings from Exhibit 2. The one change from Exhibit 2 is that the sponsor can borrow at LIBOR+0.5% instead of LIBOR+2.75%.

Exhibit 5: Calculating an Expected Return for Buyout Fund Investments

	Unit Holdings		Unit Expected Return	Weighted Expected Return
S&P 500 index	2.44	(purchase)	9.5%	23.2%
LIBOR+0.5%	0.60	(purchase)	4.5	2.7
Lehman Corporate Bond index	0.96	(purchase)	6.5	6.2
LIBOR+0.5%	-2.01	(borrow)	4.5	-9.0
First Boston High Yield	-0.99	(borrow)	8.0	-7.9
Buyout index	1.00			15.2%

In this example, a portfolio of buyout investments is expected to earn a 15.2% average annual return, or 5.7% above the expected return on the S&P 500 index. Risk and correlation forecasts can be similarly developed from historical simulations as presented in Exhibit 3, or, alternatively, developed analytically from public market index covariances.

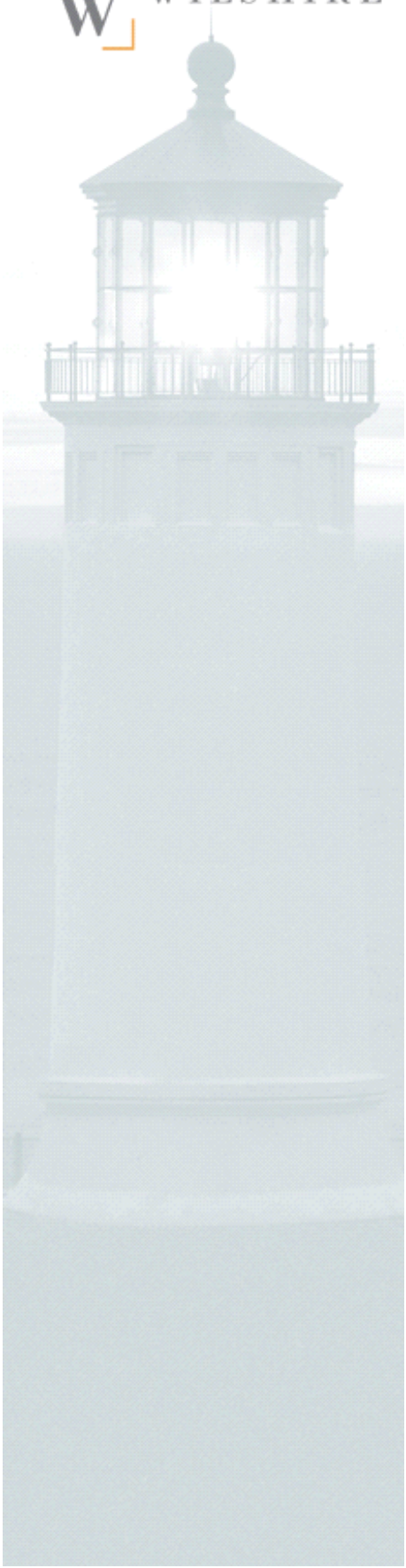
Conclusion

Investors can adapt tools common in analyzing public market investments to build risk-adjusted performance benchmarks for the private markets and create return and risk estimates for use in asset allocation, as the presentation here for the buyout funds benchmark illustrates. This structured methodology is far superior to efforts to wrench meaning from statistical calculations of returns based upon infrequent appraisals or valuations.

Footnotes

1. The S&P indexes capital structure is altered by first solving for the unleveraged S&P index return. The unleveraged return is equal to the after-tax returns on all capital sources, weighted by their proportion of total firm capital. Returns for the new Buyout index equal the unleveraged S&P index return, divided by the proportion of equity in the new capital structure, minus after-tax returns on the multiple types of debt financing, weighted by their respective ratios to equity in the buyout company.

2. Venture Economics, *1996 Investment Benchmarks Report*, p.12.



Wilshire Consulting

2006 Asset Allocation Return and Risk Assumptions

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WILSHIRE CONSULTING

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Introduction

This report is Wilshire Associates' annual study on asset allocation for institutional portfolios. The return and risk recommendations contained within the report should be used for asset-liability and asset allocation studies conducted in 2006. All return assumptions are median geometric returns based on a log-normal distribution.

The asset allocation process is comprised of four steps. The initial step requires forecasting return, risk, and correlation for all asset classes. The second step is client specific and involves a review of a fund's unique financial commitments. Next, using inputs from the first two steps, an efficient frontier of diversified portfolios is constructed. The portfolios residing on this frontier are specific to each client's liabilities, or spending objectives, and represent varying tradeoffs between expected risk and funding cost or expected risk and real return. The final step is to select an asset mix from the efficient frontier that matches the institutions' attitude toward risk. The research presented here aids in completing the first step of the asset allocation process. Wilshire Consulting works with funds individually to complete the remaining steps and to select the optimal portfolio which best reflects the risk tolerance and environment for that institution.

Expected Future Returns

At the beginning of each year, Wilshire reviews its long-term return and risk assumptions for the major asset classes. We define 'long-term' as forecasts that cover at least the next ten years. This extended time horizon is consistent with the benefit/spending obligations of institutional investors, which generally average at least ten years. Wilshire's forecasting methodology has a strong degree of accuracy, which will be illustrated in exhibits throughout the paper, over intervals of ten or more years and is superior to short-term estimates that are notoriously error prone.

Because of their long-term horizon, Wilshire's assumptions typically change very little from year to year. One would only expect significant changes following a period of volatile directional swings in asset markets or valuations. It is routine practice for us to alter our return assumptions up or down to better fit changing market levels. This year is no exception. Wilshire's real return forecasts for several of the major asset classes have increased by 50 basis points. These increases have been fueled in part by a 25 basis point reduction in our inflation forecast – from 2.50% to 2.25% - and by increases in the asset classes' nominal return forecasts. For example, our return forecast for U.S. stocks and bonds have both increased by 25 basis points from 8.0% and 4.75% a year ago to 8.25% and 5.00% this year, bringing their forecasted real rates of return from 5.50% and 2.25% to 6.00% and 2.75%, respectively[1]. Wilshire's high yield bond forecast has been increased by 25 basis points - from 6.25% to 6.50% - as a result of a general increase in bond yields and a widening of credit spreads. Additionally, as was detailed in a recent research report on Wilshire's private market model, our private markets portfolio return has also been increased from 11% to 11.75%. Conversely, we trimmed our return forecast for REITs by 75 basis points, from 7.00% to 6.25%, due to the continuing decline in yields.

[1] *For simplicity, real returns have been shown here as the difference between nominal returns and inflation. The simplification ignores the cross-compounding effect of inflation and real returns. For example, the 'true' embedded real rate of return in Wilshire's stock forecast is 5.87% (= 1.0825/1.0225 – 1).*

Building on research Wilshire conducted in 2005, we have made two important modifications to the list of asset classes included in this year's report. First, our research report on the institutional use of hedge funds[2] has led us to discontinue providing "asset class" assumptions for hedge fund strategies. It is Wilshire Consulting's belief that, as with other potential sources of alpha, decisions regarding the use of hedge funds in the pursuit of active returns are separate from the asset allocation process. While we will no longer publish formal "asset class" forecasts for hedge funds, Wilshire will continue to work with our clients individually to assist in the development of assumptions for funds interested in incorporating hedge fund vehicles as a separate asset class. Next, as a result of our recent research on commodity futures investing[3], this year's report is Wilshire's first to include asset class assumptions for commodities.

The importance of long-term return forecasts is growing. Actuarial interest rate assumptions, which are essentially portfolio return forecasts, are increasingly scrutinized because of their potential impact on plan contributions in the current environment. Wilshire has been forecasting asset class returns using forward looking assumptions since 1981 with a strong record of success over 10-year periods. We believe the methods used in this report are both intuitive and robust.

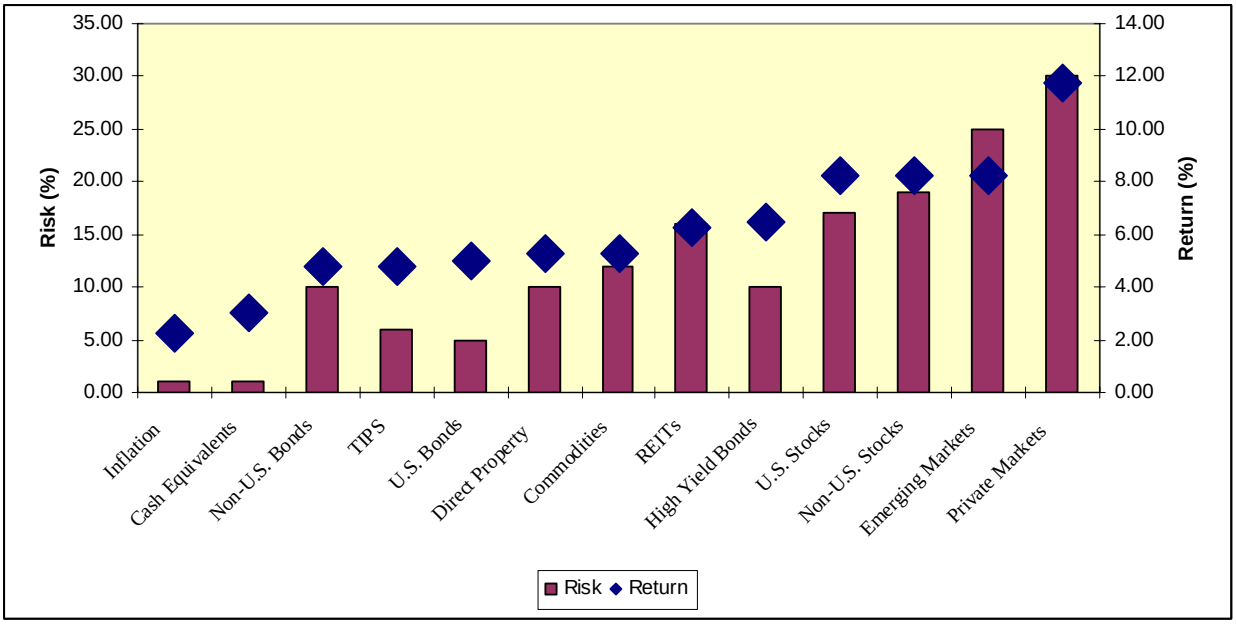
Exhibit 1 presents Wilshire's 2006 return forecasts and contrasts them with our 2005 assumptions; while Exhibit 2 displays our 2006 projections in graphical form.

Exhibit 1
Wilshire's Expected Return Assumptions

	Total Return			Risk
	2005	**2006**	Change	
Investment Categories:				
U.S. Stocks	8.00 %	**8.25 %**	0.25 %	17.00 %
U.S. Bonds	4.75	**5.00**	0.25	5.00
Cash Equivalents	3.00	**3.00**	0.00	1.00
Non-U.S. Stocks	8.00	**8.25**	0.25	19.00
Non-U.S. Bonds	4.50	**4.75**	0.25	10.00
Emerging Markets	8.00	**8.25**	0.25	25.00
High Yield Bonds	6.25	**6.50**	0.25	10.00
TIPS	4.25	**4.75**	0.50	6.00
Real Estate Securities (REITs)	7.00	**6.25**	-0.75	16.00
Direct Property	6.00	**5.25**	-0.75	10.00
Private Markets	11.00	**11.75**	0.75	30.00
Commodities	n.a.	**5.25**	n.a.	12.00
Hedge Funds: Portable Alpha *	5.00	**n.a.**	n.a.	n.a.
Inflation:	2.50	**2.25**	-0.25	1.00
Total Returns minus Inflation:				
U.S. Stocks	5.50	**6.00**	0.50	
U.S. Bonds	2.25	**2.75**	0.50	
Cash Equivalents	0.50	**0.75**	0.25	
Stocks minus Bonds:	3.25	**3.25**	0.00	
Bonds minus Cash:	1.75	**2.00**	0.25	

[2] *"Institutional Use of Hedge Funds: Penetrating the Darkness on the Hedge of Town?" July 26, 2005.*
[3] *"Commodity Futures Investing: Is All That Glitters Gold?" March 9, 2005.*

Exhibit 2
Wilshire's Expected Return and Risk Assumptions



These return forecasts are more fully explained in subsequent sections dedicated to each asset class.

Historical Returns

A key check on the reasonableness of Wilshire's assumptions is their relationship to historical returns. Exhibit 3 contrasts Wilshire return assumptions with historical returns over various periods of time and market scenarios.

Exhibit 3
Historical Returns vs. Wilshire Forward-Looking Assumptions

	Historical Returns				
	1802-2005 *	1926-2005	High Inflation 1970-1979	Bull Market 1980-1999	Wilshire Forecast
Total Returns:					
Stocks	8.2 %	10.4 %	5.9 %	17.8 %	8.3 %
Bonds	4.9	5.7	7.2	10.0	5.0
T-bills	4.3	3.8	6.4	7.2	3.0
Inflation:	1.4	3.0	7.4	4.0	2.3
Total Returns minus Inflation:					
U.S. Stocks	6.8	7.3	-1.5	13.8	6.0
U.S. Bonds	3.5	2.6	-0.2	6.0	2.8
T-bills	2.8	0.8	-1.0	3.1	0.8
Stocks minus Bonds:	3.3	4.7	-1.3	7.8	3.3

** Jeremy Siegel return history from 1802-2001 ("Stocks for the Long Run" McGraw-Hill 2002) updated to 2005 using S&P 500 Index and Lehman Aggregate Bond Index*

There are several relationships worth noting. Wilshire's stock and bond return forecasts, 8.3% and 5.0%, respectively, are close to the actual returns achieved over the 204-year period ending 2005. However, despite having increased by 50 basis points since last year's report, the real return forecast for stocks falls below its historical averages while the return spread between stocks and bonds is forecasted to be 3.3%, equal to the 204-year return history.

The remainder of the report explains the methodologies behind Wilshire's return forecasts.

Inflation

Wilshire's long-term inflation forecast is 2.25%, 25 basis points lower than one year ago.

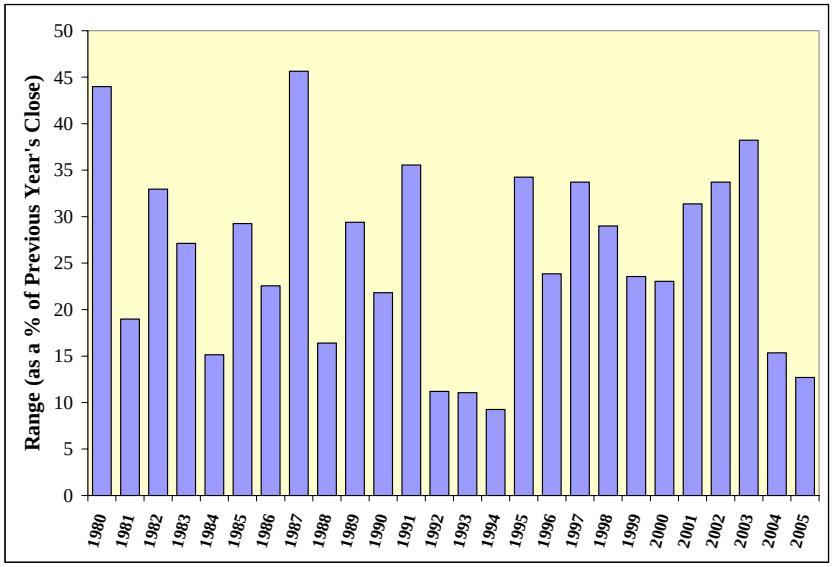
A market-based inflation forecast can be derived by subtracting a TIPS yield-to-maturity from a traditional Treasury bond yield-to-maturity with the same maturity. For example, on December 30th, 2005, the 10-year Treasury had a yield of 4.36% while the yield on the 10-year TIPS was 2.07%. The 2.29% difference in yields is the bond market's estimate for inflation over the next ten years, which is also referred to as the 10-year breakeven inflation rate. Wilshire's practice is to select a return forecast rounded to the nearest 0.25%. Consequently, we round the 2.29% breakeven inflation rate to our 2.25% inflation rate forecast.

Equity

U.S. Stocks

Wilshire's long-term expected return for U.S. stocks is 8.25%, up from 8.00% one year ago. As mentioned earlier, absent any volatile market events or shifts in pricing multiples, one would expect only minor changes in long-term return forecasts from year to year. Continuing on the pricing stability experienced in 2004, the year 2005 proved to be one of the most tranquil equity markets in recent memory. As illustrated in Exhibit 4, the Dow Jones Wilshire 5000 Index℠ traded within a 12.7% price range in 2005, its narrowest trading range since 1994 (9.2%). The market's relative tranquility over the past two years has been in stark contrast to volatility levels seen over the prior three years, which all exceed 31%. Price-to-earnings valuation ratios declined further as prices increased at a slower pace than earnings. The price of the S&P 500 Index rose 3% versus a more accelerated growth in earnings of 13%. Price to trailing-earnings multiples for the S&P 500 have compressed from 29.6 in December of 2001 to 16.3 at the end of 2005.

Exhibit 4
Dow Jones Wilshire 5000 Trading Ranges



It is Wilshire's practice to employ a dividend-discount model ("DDM") to forecast long-term U.S. stock returns[4].

Wilshire's current expected return for stocks incorporates the following assumptions:

- A year-end 2005 S&P 500 Index price of 1,248, up from 1,212 a year earlier;
- A base earnings level of $77 per share, up from $68 per share a year earlier;
- Earnings-per-share growth of 8.5% over the next five years, dropping incrementally to 4.8% from years six through 15;
- A 29% dividend payout ratio over the next five years, increasing incrementally from years six through 15 to 45% - its historical average over the past 25 years;
- Long-term earnings and dividend growth of 4.8% after 15 years, equal to a 2.25% inflation rate and a 2.50% real growth rate.

When establishing long-term return projections, it is helpful to identify the model's sensitivity to each of the assumptions which are used as inputs. This echelon of understanding is vital in forecasting returns that can be used with high levels of confidence. Exhibit 5 demonstrates the model's sensitivity to changes in 5-year earnings growth estimates and dividend payout ratios.

Exhibit 5
DDM Forecast Sensitivity to Inputs

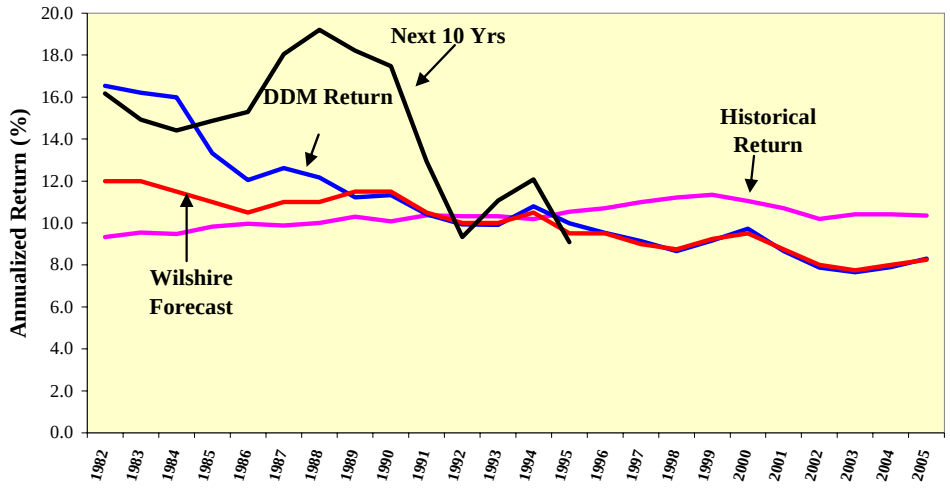
		Dividend Payout Ratio (Long Term)					
	(%)	25	30	35	40	45	50
5-Year EPS Growth	7.0	6.66	6.97	7.26	7.54	7.81	8.06
	7.5	6.75	7.06	7.37	7.65	7.93	8.19
	8.0	6.83	7.16	7.47	7.77	8.05	8.32
	8.5	6.92	7.26	7.58	7.89	8.18	8.46
	9.0	7.01	7.36	7.70	8.01	8.31	8.60
	9.5	7.11	7.47	7.81	8.14	8.45	8.74
	10.0	7.20	7.58	7.93	8.27	8.58	8.89
	10.5	7.30	7.69	8.06	8.40	8.73	9.04
	11.0	7.41	7.81	8.18	8.54	8.87	9.19
	11.5	7.52	7.93	8.31	8.68	9.02	9.35
	12.0	7.63	8.05	8.45	8.82	9.17	9.51

Wilshire's assumption of 8.5% earnings growth over the next five years falls between the I/B/E/S 'top-down' median strategist estimate of 8.0% and the implied 'bottom-up' growth rate of 12% from the I/B/E/S security level median EPS forecasts. Our expectation for earnings growth is closer to the 'top-down' median estimate, as past experience suggests that the 'bottom-up' estimates tend to be overly optimistic and prone to 'over shoot' error. We expect dividend payout ratios to move towards their historical average of 45% over the next 15 years.

[4] *"Wilshire's Expected U.S. Stock Return: An Explanation," November 13, 2002.*

Exhibit 6 details the history of Wilshire's stock return forecasts together with the dividend-discount model return forecasts, historical returns, and the rolling returns for the 10-year period following each estimate. Beginning in the mid-1980s, Wilshire chose to base its stock return forecast on its DDM whereas previously our forecast averaged the model return with historical stock returns. With the exception of periods beginning in the late 1980s and early 1990s, Wilshire's DDM forecast has been a very good predictor of the S&P 500's return over the following ten-year period. Actual 10-year returns that began in those years included the technology bubble of the late 1990s, something we would not expect our methodology to predict. Equity returns have subsequently deflated and Wilshire's forecasts from 1992 through 1995 (the last estimates with ten years of subsequent actual returns) are once again consistent with actual S&P 500 returns for the subsequent ten years.

Exhibit 6
Wilshire Stock Return Forecast vs.
DDM Return, Historical Return, & Actual 10-Year Return Following Forecast



Year	S&P 500 1926 to	DDM at 12/31	Wilshire's Forecast	S&P 500 Next 10 Yrs
1982	9.33 %	16.53 %	12.00 %	16.17 %
1983	9.54	16.20	12.00	14.93
1984	9.48	15.98	11.50	14.40
1985	9.83	13.33	11.00	14.86
1986	9.96	12.05	10.50	15.29
1987	9.89	12.62	11.00	18.05
1988	9.99	12.17	11.00	19.20
1989	10.30	11.23	11.50	18.21
1990	10.08	11.33	11.50	17.46
1991	10.37	10.42	10.50	12.94
1992	10.32	9.93	10.00	9.34
1993	10.32	9.91	10.00	11.06
1994	10.18	10.80	10.50	12.07
1995	10.53	9.99	9.50	9.08
1996	10.70	9.53	9.50	
1997	10.99	9.14	9.00	
1998	11.21	8.66	8.75	
1999	11.34	9.17	9.25	
2000	11.04	9.72	9.50	
2001	10.70	8.66	8.75	
2002	10.20	7.88	8.00	
2003	10.42	7.65	7.75	
2004	10.42	7.90	8.00	
2005	10.35	8.31	8.25	

Non-U.S. Stocks

Wilshire uses the same 8.25% expected return for non-U.S. stocks of developed markets as it does for U.S. stocks. While this view has gained wider acceptance in recent years, some institutional investors and their money managers assume that the non-U.S. developed stock market will average somewhat higher returns than U.S. stocks. As demonstrated in Exhibit 7, the historical record does not support a non-U.S. return premium.

Exhibit 7
Historical Returns (through 2005)

	U.S. Dollar		Local Currency	
	Return	**Risk**	**Return**	**Risk**
S&P 500 Index	11.1 %	15.4 %	11.1 %	15.4 %
MSCI EAFE Index	10.5	16.6	8.8	14.3
Europe	10.7	16.6	10.3	15.2
Pacific	10.8	20.7	8.2	17.1

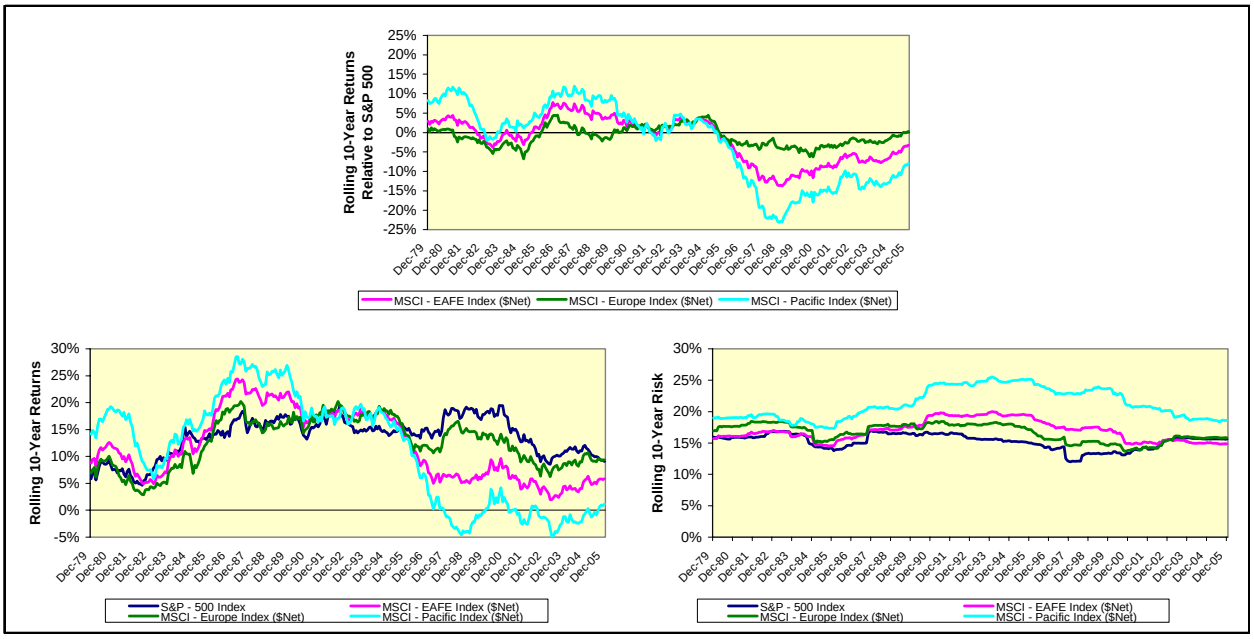
Reliable returns for non-U.S. stocks are available beginning 1970. Since that time U.S. stocks, as represented by the S&P 500 Index, have returned 11.1% per year, versus 10.5% for non-U.S. stocks as measured by Morgan Stanley Capital International's ("MSCI") EAFE Index in U.S. dollars.

When the two chief components of the EAFE Index are examined, we see support for the same conclusion. Since December 31, 1969, European stocks have returned 10.7% per year, or 40 basis points below U.S. stocks. Given this long-term performance record, similar risk levels, and common financial attitudes toward risk-taking, it would seem reasonable to forecast similar long-term returns for the U.S. and Europe. In fact, evidence might suggest slightly lower expected returns on European stocks due to higher costs (transaction costs, taxes and dividend withholding) of investing in the European stock markets.

The Pacific component of EAFE tells a similar story. Actual Asian returns have been comparable to the U.S., averaging 10.8% over the past 36 years. Japan, the largest country within the Pacific, returned 11.3% during the same period.

Exhibit 8 shows a long stretch of time (roughly 1985 to 1995) over which the MSCI EAFE Index outperformed the S&P 500 Index due to the then robust Japanese market. However, we believe the subsequent nearly 10-year out-performance of U.S. stocks versus non-U.S. stocks supports our assumption that the economic theories of Purchasing Power Parity ("PPP") and Interest Rate Parity ("IRP") prevail over long time periods and justify the selection of a single return assumption for both asset classes.

Exhibit 8
Rolling 10-Year Return & Risk Comparisons



With the deficiency of concrete evidence that supports a non-U.S. equity return premium, Wilshire forecasts an 8.25% return for non-U.S. stocks of developed nations, the same as for U.S. stocks.

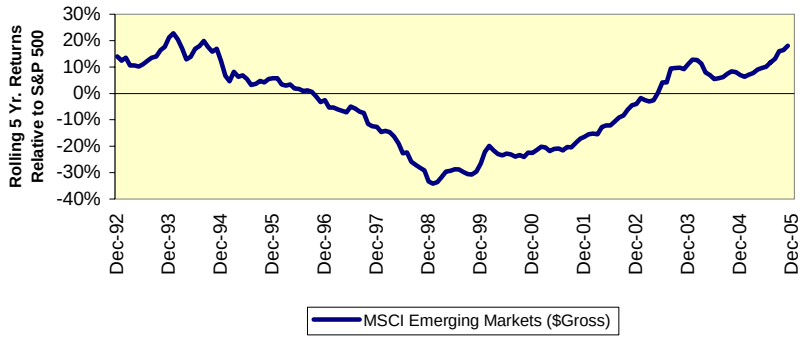
Emerging Markets

Money managers have long supported the view that emerging markets should produce returns above the developed EAFE markets. However, poor returns in the late 1990s combined with emerging markets' high volatility have caused some money managers to re-evaluate their position. In fact, it is important to understand that the historical record on emerging market performance is short and shows mixed results. This gives us less confidence in predicting a return premium to emerging markets above our return forecast for the developed stock markets. For example, prior to 2004, the historical return of the MSCI Emerging Markets Index was 12.4%, almost directly in line with the return on the S&P 500. Exhibit 9 illustrates this point.

The last three years, however, have seen emerging markets outperform developed equity markets by a wide margin, as measured from the start of the MSCI Emerging Markets Index. This has caused the relative returns for emerging markets to again be superior to those of the developed markets in a similar fashion to that seen in the early 1990's. As shown in Exhibit 9, this appears to be a cyclical phenomenon and as such, is not a sufficient reason to justify a long-term return premium.

Exhibit 9
Emerging Market Returns (1988 through 2005)

	U.S. Dollar	
	Return	Risk
S&P 500 Index	12.0 %	14.0 %
MSCI Emerging Markets	14.2	23.0



Since our 1999 report[5], Wilshire has recommended an emerging market expected return equal to the return for developed markets, rather than assuming a small return premium to emerging markets. This change in approach is now consistent with Wilshire's treatment of the U.S. stock market where large stocks are not separated from small stocks and value stocks are not separated from growth stocks in the asset allocation process. Wilshire believes that emerging markets have become sufficiently integrated into the fabric of institutional money management that market capitalization weighting will give most investors a near optimal return/risk tradeoff. Effectively, the MSCI All Country World Index (ACWI) ex US Index becomes the non-U.S. proxy of the Dow Jones Wilshire 5000 Index[sm].

Wilshire's asset allocation work – unless otherwise directed by client circumstances – will implicitly assume an emerging markets component within the non-U.S. equity asset class. The emerging markets component will be market-weighted, which, as of 2005 end of year market values, represents 13% of total non-U.S. equity. Return, risk, and correlation assumptions for non-U.S. equity will incorporate emerging markets and Wilshire's preferred benchmark will be the MSCI ACWI ex US, which includes all non-U.S. developed markets and emerging markets in market-weighted proportions.

Some clients, including most non-U.S. fund sponsors, will prefer to treat emerging markets as a separate asset class and Wilshire will continue to provide risk forecasts for emerging markets. Our research shows that efficient portfolios include a small allocation to emerging markets, consistent with a market-weighting, even with a level of return equal to the developed equity markets. In this framework, emerging stock markets become a risk management or diversification vehicle rather than an asset class that is expected to generate higher long-term returns.

[5] *"1999 Asset Allocation Report," February 1999.*

Fixed Income

U.S. Bonds

Bond market yields provide the most reliable forecast of long-term future bond returns. On December 31, 2005, the yield-to-maturity on the Lehman Aggregate Bond Index was 5.08%, 70 basis points higher than its 4.38% yield-to-maturity one year earlier. Wilshire's practice is to use the current yield-to-maturity as the predictor of future bond returns.

The flattening of the U.S. yield curve has received a great deal of attention this year.[6] However, the curve's current shape, which is notably different from its more "normal" upward sloping shape, does not materially impact Wilshire's return assumptions for bonds. Instead, as will be explained in the discussion of our Treasury and TIPS forecasts, subtle rounding adjustments have been made in consideration of the yield curve's current flatness. Exhibit 10 illustrates the dramatic change in treasury yield spreads during 2005 along with their historical 10- and 20-year averages.

Exhibit 10
Historical Treasury Yield Spreads

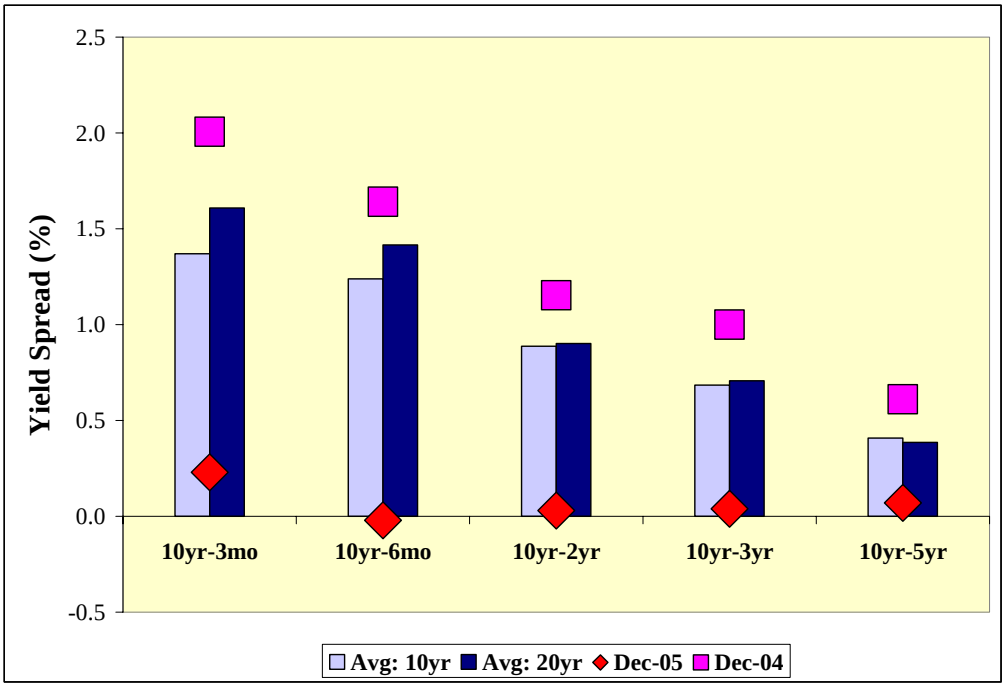
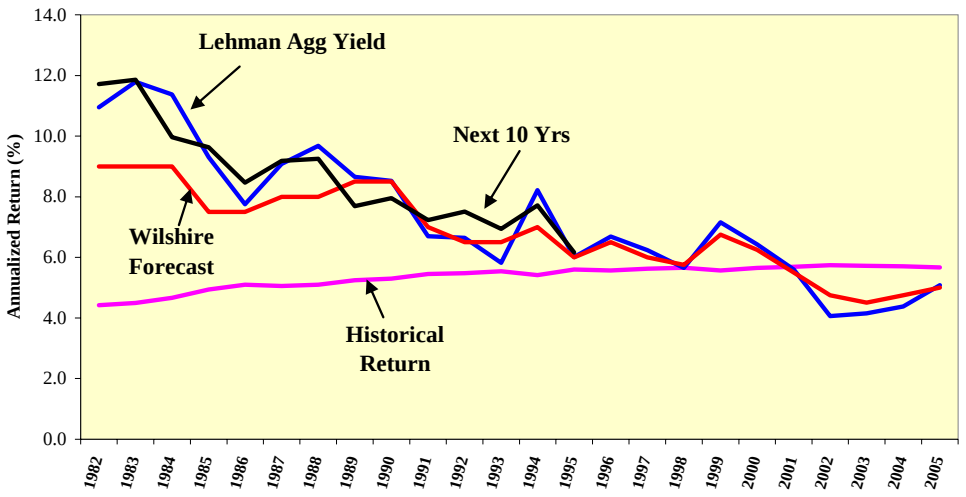


Exhibit 11 compares Wilshire's past bond return assumptions with historical returns, yields, and the rolling returns for the ten year period following each estimate.

[6] "Is the Fed's 'Conundrum' Resolving?" Wilshire Consulting, March 28th, 2005
"Is the Yield Curve a Crystal Ball?" Wilshire Consulting, June 17th, 2005

Exhibit 11
Wilshire Bond Return Forecast vs.
Current Yield, Historical Return, & Actual 10-Year Return Following Forecast



Year End	Lehman Agg 1926 to	Lehman Agg Yield at 12/31	Wilshire Forecast	Lehman Agg Next 10 Yrs
1982	4.43 %	10.95 %	9.00 %	11.72 %
1983	4.49	11.79	9.00	11.86
1984	4.67	11.37	9.00	9.96
1985	4.93	9.31	7.50	9.63
1986	5.10	7.75	7.50	8.47
1987	5.06	9.08	8.00	9.18
1988	5.10	9.68	8.00	9.26
1989	5.24	8.66	8.50	7.69
1990	5.30	8.52	8.50	7.96
1991	5.45	6.70	7.00	7.23
1992	5.48	6.64	6.50	7.51
1993	5.54	5.82	6.50	6.95
1994	5.42	8.21	7.00	7.72
1995	5.59	6.01	6.00	6.16
1996	5.56	6.69	6.50	
1997	5.62	6.24	6.00	
1998	5.66	5.65	5.75	
1999	5.57	7.16	6.75	
2000	5.65	6.43	6.25	
2001	5.69	5.60	5.50	
2002	5.74	4.06	4.75	
2003	5.72	4.15	4.50	
2004	5.71	4.38	4.75	
2005	5.66	5.08	5.00	

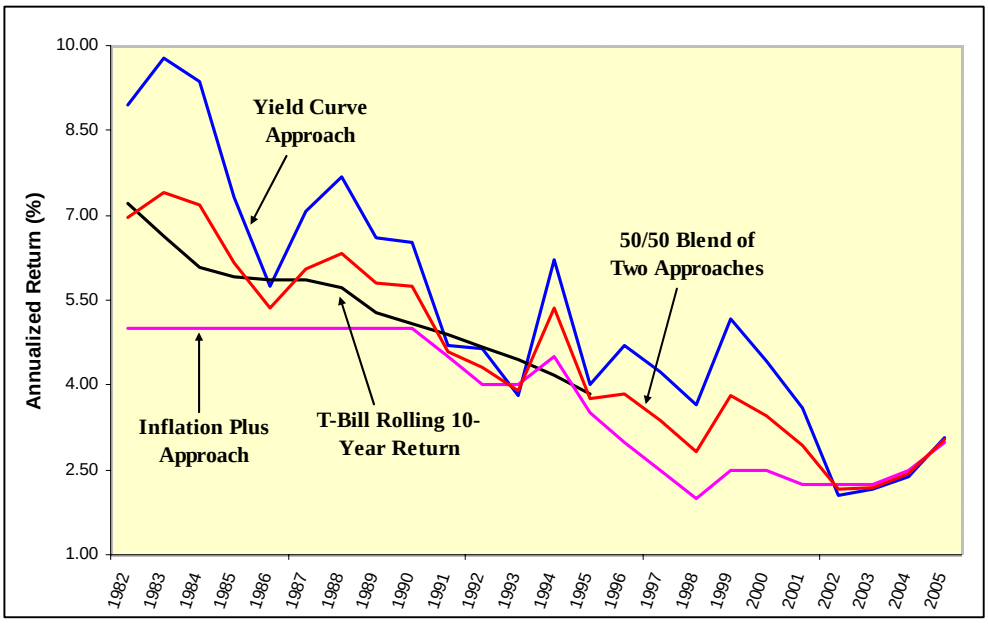
Cash Equivalents

Wilshire blends two methodologies in forecasting returns for cash equivalents: the "yield curve approach" and the "inflation-plus approach."

The yield curve approach starts with the yield-to-maturity on bonds and subtracts the average yield premium between short and long bond yields. Since 1979, the yield curve premium has averaged 2%. Subtracting 2% from our 5.00% bond return forecast gives a 3.00% cash return forecast. The inflation-plus approach adds a short-term real return component to our inflation rate forecast. Since 1946, real returns for Treasury bills have averaged 0.75% that, when added to our 2.25% inflation rate assumption, equals a 3.00% cash return forecast. Since both approaches confirm the same return forecast, Wilshire has selected a 3.00% cash return forecast.

Exhibit 12 compares Wilshire's yield curve approach, inflation-plus approach, and a 50/50 blend of the two approaches, with the Treasury bill return for the ten year period following each estimate.

Exhibit 12
Wilshire's Cash Equivalents Forecast vs. Actual 10-Year Return



Non-U.S. Bonds

Investment theory suggests that non-U.S. bond yields will be equivalent to U.S. bond yields when currency adjustments are taken into account. This would imply using the same 5.00% U.S. bond return forecast for non-U.S. bonds.

However, since our 1996 report[7], Wilshire has deducted 25 basis points from the non-U.S. bond return. The result is a 4.75% expected return for non-U.S. bonds. Experience shows that custodial costs, taxes, transaction fees, and a higher credit quality versus the U.S. bond market (because of the large proportion of government debt in non-U.S. bond indexes) reduce non-U.S. bond returns. Exhibit 13 compares historical U.S. bond return and risk values, as defined by the Lehman Aggregate, with non-U.S. unhedged and hedged values, as defined by the Citigroup Non-U.S. Government Bond indices.

Exhibit 13
U.S. vs. Non-U.S. Bond Returns (1985 through 2005)

	U.S. Dollar		Local Currency	
	Return	**Risk**	**Return**	**Risk**
U.S. Bonds (Lehman Agg.)	8.5 %	4.9 %	8.5 %	4.9 %
Citigroup Non-U.S. Govt.	10.1	11.9	7.9	4.1

Unhedged non-U.S. bonds offered better returns over the 21-year period thanks to a net fall in the dollar for the entire time period. Hedged non-U.S. bond returns take out expected and unexpected currency movements and show returns 80 basis points below U.S. bonds at less risk. A long-term forecast for non-U.S. bonds should not include a currency return, positive or negative, and should rely upon historical hedged returns. Risk forecasts, however, should come from the experience of the unhedged indexes unless a hedged strategy is employed.

In summary, Wilshire is using a 4.75% expected return for unhedged non-U.S. bonds and a 4.65% expected return for hedged non-U.S. bonds, with a ten basis point deduction in return for hedged non-U.S. bonds the result of expected additional hedging costs.

Treasury Bonds and Treasury Inflation Protected Securities (TIPS)

Wilshire's return assumption for Treasuries is derived from the yield-to-maturity of the Lehman Treasury Index. Our return forecast for Treasuries is 4.50%, which is based on the index's December 31, 2005 yield-to-maturity of 4.44%. As was mentioned earlier, the current flatness of the yield curve has a subtle impact on our expectation for Long-Term Treasury Bonds. Rather than round the yield-to-maturity of the Lehman Long-Term Treasury Index down eight basis points, from 4.58% to 4.50%, we round our forecast up to 4.75% to reflect the added return premium that is expected from a yield curve with a shape more consistent with historical observations. We anticipate that the move back to a normal shape will occur with a slight increase in long-term interest rates.

Wilshire recommends using an expected return for Treasury Inflation Protection Securities (TIPS) equal to the expected return for similar maturity, nominal Treasury bonds. Our return forecast for TIPS is 4.75%, 25 basis points higher than our forecast for Treasuries and equal to our long-term Treasury assumption. This forecast reflects a TIPS portfolio that mirrors the Lehman U.S. TIPS Index, which has a longer average maturity than the Lehman Treasury Index.

[7] *"1996 Asset Allocation Report: Rethinking Alternative Investments," February 1996.*

For the reasons discussed above with respect to our long-term Treasury assumption, we add a 25 basis point premium to our 4.50% Treasury forecast, resulting in an expected TIPS return of 4.75%.

High Yield Bonds

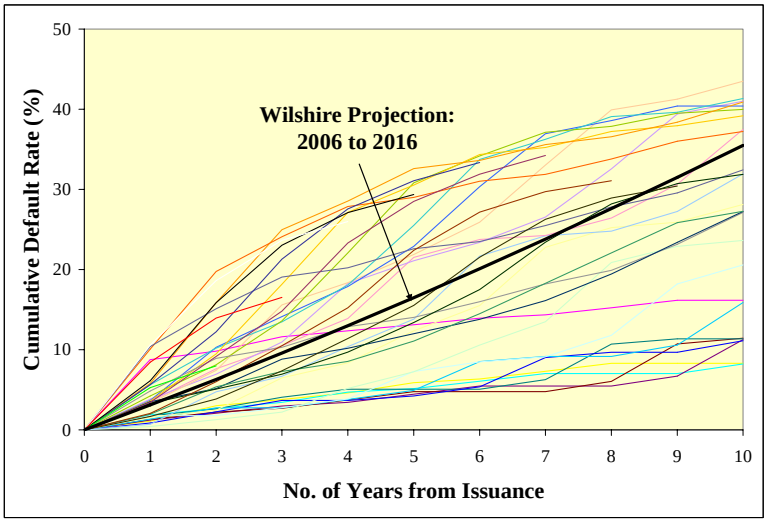
Wilshire's return forecast for high yield bonds is 6.50%. This return forecast is based upon our high yield bond model that accounts for the dynamic nature of credit yield spreads, defaults and recoveries.

Wilshire's 6.50% high yield expected return incorporates the following assumptions:

- An actual yield spread of 3.75%, up from 3.00% one year prior;
- An initial default rate of 3.0%, increasing incrementally over the next ten years to its historical average of 4.0% in years 10 and beyond, resulting in a 10-year cumulative default rate of 35.5%;
- A constant 40% recovery rate, equal to the historical average recovery rate;
- A 10-year cumulative loss rate – defaults minus recoveries – equal to 21.3% versus 18.3% last year.

Wilshire's high yield bond model incorporates the ability to input variable default rates. In Exhibit 14 we graph Wilshire's expected future default rates against all historical cumulative default rates from 1970 through 2004. Each line represents the historical cumulative default rates for high yield bonds issued in a single vintage year. The dark solid line is Wilshire's forward-looking default rate that is used in our expected return model for high yield bonds. Wilshire's default forecast line represents default expectations for a market portfolio holding bonds issued across various years. While it differs in nature from the vintage year default lines, which represent cumulative default rates specific to each single year of issue, the chart is useful in comparing our projection to historical default rate paths.

Exhibit 14
Historical Cumulative Default Paths - 1970 to 2004



Wilshire's report on high yield bonds[8], published one year ago, explains in greater detail the rationale behind our long-term return forecast.

Private Market Investments

Wilshire's recommended assumptions for individual private market asset classes are contained in Appendix B together with comparisons to some of the major public asset classes.

Wilshire's private markets return forecasts are shown in the first row of Appendix B. Our expected returns are based on drawing parallels to the public markets where appropriate as detailed in the second part of our recent three part series.[9] In addition, we have studied actual returns earned by large institutional private markets portfolios covering time periods of 15 years using Wilshire's own databases and *Venture Economics*, a firm specializing in measuring private equity returns, as a check on our estimates.

Wilshire's risk forecasts are reported in row two in Appendix B. These are expected standard deviations of annual returns. Risk forecasts for private market asset classes are especially challenging because short-term returns cannot be calculated due to infrequent partnership valuations. Risk estimates based upon accounting data consistently understate risk. Wilshire's approach has been to estimate risk by drawing parallels to the public markets and adjusting for any added risk contributed by financial leverage, the absence of liquidity, or greater business risk. The remaining rows in Appendix B contain correlation forecasts. Again, these estimates come from parallels to the public markets and are useful in assessing the diversification benefits of private markets. Generally, private equity is most useful as a type of super-charged equity return rather than a diversification tool as private equity returns rely on the receptiveness of the capital markets to generate returns.

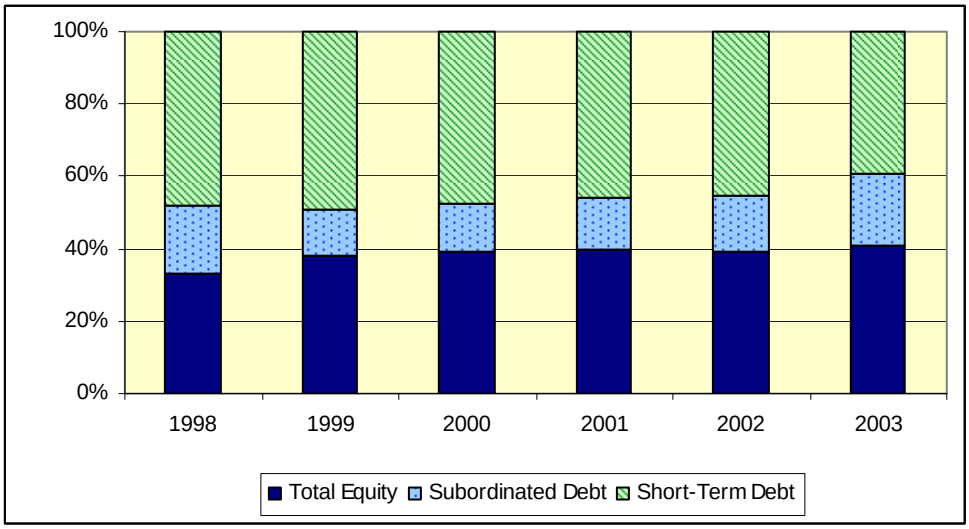
Buyouts

For 2006, our expected return for U.S. buyouts is 10.25%. The assumption is that buyouts will exhibit similar business risks as publicly traded companies but will have greater financial risk. Therefore, it is appropriate to model buyout returns using public market proxies for equity returns and financing costs. All expected returns in Appendix B are intended to be net returns. For example, the 10.25% expected return for buyouts should be viewed as net of all fees, including carried interest. Wilshire's methodology is discussed in more detail in the second part of our recent three part series on private equity.

Wilshire's risk forecast, expressed as a standard deviation of annualized return, is 30% for buyouts. This forecast is considerably higher than the 17% risk for public stocks and is attributable to greater financial risk due to a more leveraged capital structure in buyout companies. We measured risk by simulating historical buyout returns using Wilshire's Buyout Index, which adjusts public stock returns for the capital structure found in buyouts. Our leverage assumption assumes a capital structure with 40% short-term debt, 20% high yield debt, and 40% equity for buyouts which is consistent with historical measurements as shown in Exhibit 15.

[8] *"High Yield Market Update," January 14, 2005.*
[9] Private Equity Investing Part 2 - Generating Asset Class Assumptions. Wilshire Consulting, January 2006

Exhibit 15
Historic Buyout Capital Structure (1998 through 2003)



Venture Capital

Wilshire's return assumption for venture capital has increased to 12.00%, which increases in line with our view on the public markets. The valuation of venture capital investments can vary by manager. This mix of current and stale valuations becomes an issue when aggregating venture performance for use in asset allocation. Therefore the presence of stale valuations suggests that to the extent venture capital performance is related to public market performance it will have some sensitivity to both recent and past returns. By including lagged data from the public markets, a more correct beta can be derived versus one naively found with a regression on contemporaneous data.

Our analysis indicates that venture capital exhibits a beta of 1.7 to the public market. Using the familiar CAPM formula $E(r) = \beta(R_m - R_f) + R_f$, we can derive an expected return for venture capital. This return estimate makes intuitive sense as investors should demand a return premium for making venture investments considering the uncertainty inherent in investing in new ventures.[10]

$E(r) = 1.7(8.25 - 3.00) + 3.00 = 11.93\%$ - which we round to 12.00%.

The first three quarters of 2005 saw total venture capital investments of $21.7 billion versus $21.6 billion for the same time period in 2004.[11] This stable level of interest in the asset class indicates that investors believe in the necessity of including venture capital when making strategic allocations.

[10] Private Equity Investing Part 2 - Generating Asset Class Assumptions. Wilshire Consulting, January, 2006
[11] MoneyTree Survey 2005

To gauge the risk characteristics of venture capital investments, we examined a number of public market proxies: the Goldman Sachs Technology Composite Index, the Wilshire Internet Index, and the performance of aggressive growth mutual funds investing primarily in post-venture technology and biotech companies. Historical return standard deviations for the Goldman Sachs Index and the mutual funds were approximately 35%. The Wilshire Internet Index had a higher 45% standard deviation. We increased the 35% measure for public post-venture companies by a factor of 1.3 to estimate a 45% risk for private, earlier stage, venture capital. This would give venture capital the same risk level as pure Internet stocks.

Non-U.S. Buyouts

Return and risk forecasts for non-U.S. buyouts follow the same methodology used for U.S. buyouts with two changes: non-U.S. equity is used as a public market proxy instead of U.S. equity and Wilshire's non-U.S. bond assumption is used as the corporate debt proxy. The result is a 10.00% expected return and 35% risk. A higher risk for non-U.S. buyouts might be anticipated because of the addition of currency risk. However, we adjusted for our expectation that non-U.S. buyouts would have a different country profile than the MSCI EAFE Index, with non-U.S. buyouts over-weighting less risky Europe and investing little in higher risk Japan. This resulted in only a slightly higher level of non-U.S. buyout risk, 35% versus 30% for U.S. buyouts.

Distressed Debt

The Citigroup Global Markets Bankrupt/Defaulted Debt Index was selected as a public market proxy for distressed debt investments. The index contains virtually all issues in default. The 20% risk forecast and correlations reported in Appendix B for distressed debt are based upon historical measurements for the Citigroup Index. The 8.75% expected return for distressed debt comes from our view that successful distressed investors take equity-like control positions in distressed companies with significant upside potential but less risk than other buyouts because companies have already encountered financial distress.

Our analysis suggests that one of the benefits of including distressed debt in a private markets portfolio is its low correlation with public asset classes, particularly stocks, when compared with other private market asset classes.

Mezzanine Debt

Wilshire views mezzanine debt like a convertible bond. However, unlike publicly traded convertibles with characteristics combining stocks and bonds, mezzanine debt possesses characteristics combining buyouts and high yield bonds. Consequently, we expect their return and risk measures to lie somewhere between buyouts and high yield bonds. Therefore, the 8.75% return and 20% risk forecast for mezzanine debt in Appendix B is based upon a blend of our buyout and high yield assumptions.

Opportunistic Real Estate

Like buyouts, opportunistic real estate funds make levered investments in properties and real estate related companies such as hotels, property companies, casinos, and real estate service companies. Like many of the private market sectors, opportunistic real estate has seen high levels of capital coming from pension funds, foundations, and endowments looking for enhanced returns relative to the public markets. It is estimated that approximately $17.5 billion in capital is available for investment in addition to a number of new funds in the process of raising $18 billion.[12]

Debt usage often approaches 70% of asset values, leaving equity values subject to much higher volatility when compared to traditional real estate or REITs. Wilshire's modeling of opportunistic real estate relies upon REIT returns but adjusted for the amount and type of debt used in opportunistic strategies. Wilshire's forecast return is 8.25%, and forecast risk is 25%. The reduction of 25 basis points is primarily a consequence of our reduced outlook for REIT returns going forward.

Private Markets Portfolio

The return and risk forecast for a diversified private markets portfolio is provided in Appendix B. The makeup of the private portfolio is:

Buyouts	60%
Venture Capital	30%
Non-U.S. Buyouts	10%
	100%

The weightings were chosen because they are typical private market allocations of large institutional investors. When the components are geometrically calculated with a lognormal assumption, the forecast return for a diversified private markets portfolio is 11.80%, which we round in Appendix A to 11.75% given our convention to round to the nearest quarter percent. This level of return is 3.50% above the 8.25% expected return for U.S. stocks. The forecast risk for the diversified private markets portfolio is 30%, almost twice the forecast risk of U.S. stocks.

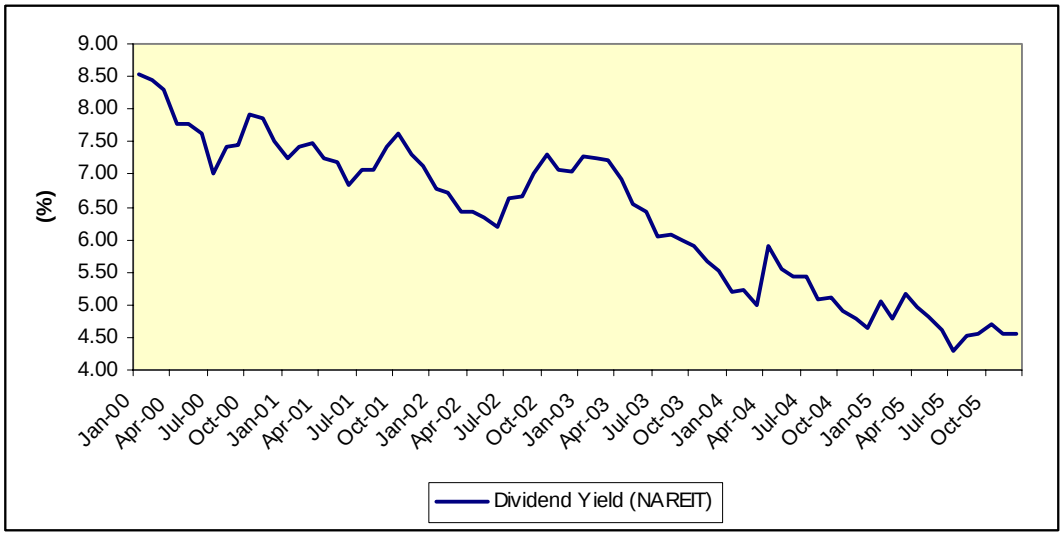
Investors in private markets and real estate have traditionally tried to estimate risk and return expectations from cost- and appraisal-based indexes. Time has shown that this practice understates risk and overstates return. Wilshire substitutes sound investment analysis by directly linking private investments to the public markets.

[12] Ernst & Young. "Market Outlook: Trends in the Real Estate Private Equity Industry." Fall 2005

Real Estate (REITs and Direct Property)

For 2005, Wilshire is forecasting an expected return of 6.25% for REIT portfolios, reduced from 7.00%. This assumption is derived from combining the current REIT dividend yield of 4.57% with an expected dividend growth rate of 1.69%. Examining REIT dividend growth over the past 32 years, Wilshire found that REITs were able to pass through about three-quarters of inflation through rent and dividend increases. The 1.69% expected dividend growth equals three-quarters of Wilshire's 2.25% inflation forecast. The REIT sector followed up the 34% gain in 2004 with a further 13.8% gain in 2005. Exhibit 16 shows that the dividend yield declined throughout the year and is a key reason the expected return assumption for REITs has been reduced 75 basis points from 2005's return forecast of 7.00%.

Exhibit 16
REIT Dividend Yield



Source: NAREIT.

Wilshire continues to recommend REITs as the best 'core' investment for clients making a significant strategic allocation to real estate.

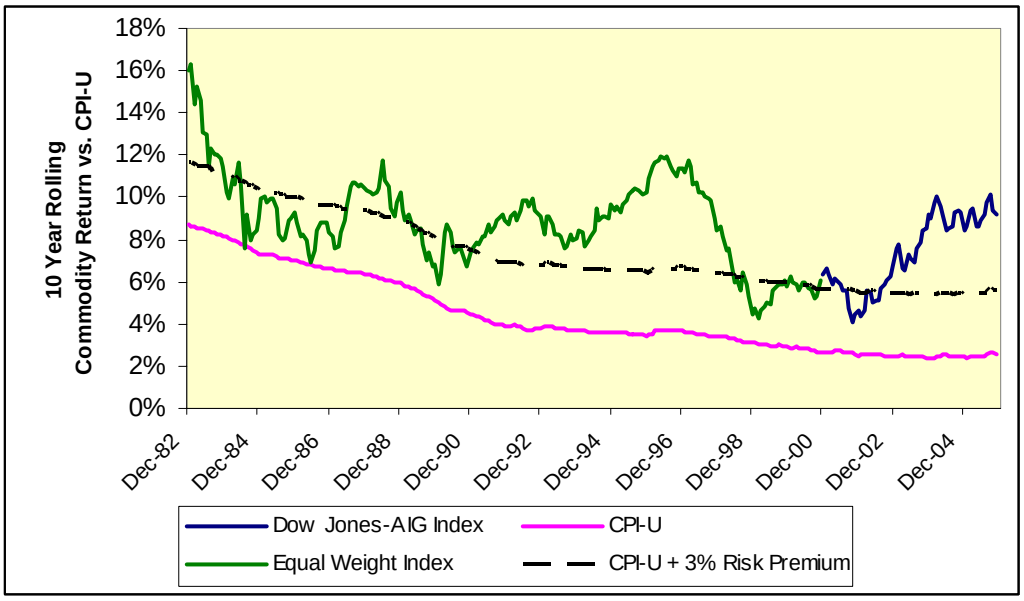
Investors in large separate account direct property portfolios should expect a 5.25% return. Our assumption is that direct property holdings will have a 1% lower return due to less utilization of leverage – REITs have an average 40% debt-to-asset ratio – and less risk than REITs, 10% versus 16%, respectively.

Commodities

The recent performance of commodities has thrust the asset class into the spotlight as investors continue to search for enhanced returns and portfolio diversification. Institutional investors can gain exposure to commodities through the futures market. Investable commodity indices, constructed from a combination of commodity futures contracts, can provide investors broad

access to the return and diversification attributes of underlying commodities. The returns for commodity futures differ from other asset classes because commodity futures do not represent compensation for the risk associated with future cash flow uncertainty. Instead, investors in commodity futures are compensated for bearing the risk of short-term commodity price fluctuations. In other words, a majority of a commodity future investor's exposure is to short-term economic conditions, while forecasting plays a much smaller role than in the stock or bond markets. Wilshire's recent paper "Commodity Futures Investing: Is All That Glitters Gold?" provides a more in depth examination of the history of commodities and their use in an institutional portfolio. Exhibit 17 lays out a return history for a commodity index over time. From this historical record, we estimate that the future expected return for commodities will be inflation plus a 3% risk premium, or 5.25%.

Exhibit 17
Historical Commodity Returns



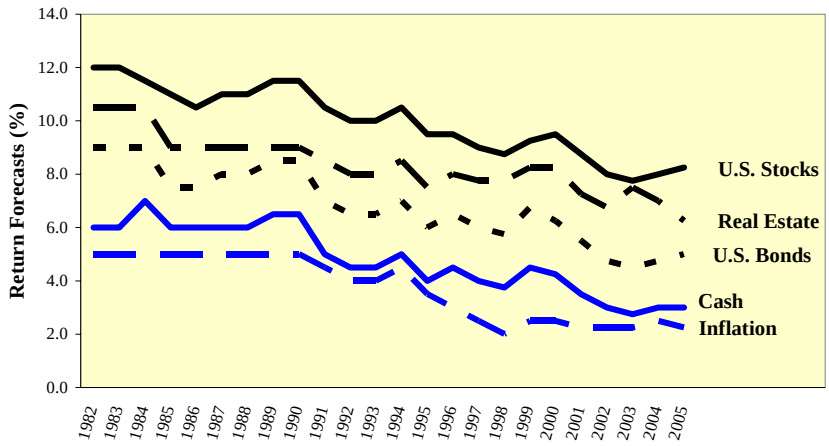
The forecasted risk for commodity futures is 12% based on the historical record of the Dow Jones-AIG Commodity Index. It is important to note that other indexes differ in composition from the Dow Jones-AIG index and therefore may be substantially more or less risky. For a more complete discussion of some of the popular commodity indexes, please see Wilshire's "Commodities Index Report" from 2005.

The low measured correlation of commodity returns with more traditional assets, such as stocks and bonds, stems from their price sensitivity to current economic supply and demand forces. In contrast, stock and bond valuations are more heavily driven by forward-looking expectations. Historically, these factors have caused traditional assets and commodities to have lower correlations. A complete list of correlations for commodities versus other asset classes can be found in Appendix A.

Wilshire Forecasts Over Time

Exhibit 18 shows how Wilshire's return forecasts have changed over the past 24 years. Notice the relative relationship between asset classes and how, when the assumptions change, they generally move together.

Exhibit 18
Wilshire's Past Forecasts for Asset Class Returns



Year Beginning	U.S. Stocks	U.S. Bonds	Cash Equivalents	Real Estate	Inflation
1982	12.0 %	9.0 %	6.0 %	10.5 %	5.0 %
1983	12.0	9.0	6.0	10.5	5.0
1984	11.5	9.0	7.0	10.5	5.0
1985	11.0	7.5	6.0	9.0	5.0
1986	10.5	7.5	6.0	9.0	5.0
1987	11.0	8.0	6.0	9.0	5.0
1988	11.0	8.0	6.0	9.0	5.0
1989	11.5	8.5	6.5	9.0	5.0
1990	11.5	8.5	6.5	9.0	5.0
1991	10.5	7.0	5.0	8.5	4.5
1992	10.0	6.5	4.5	8.0	4.0
1993	10.0	6.5	4.5	8.0	4.0
1994	10.5	7.0	5.0	8.5	4.5
1995	9.5	6.0	4.0	7.5	3.5
1996	9.5	6.5	4.5	8.0	3.0
1997	9.0	6.0	4.0	7.8	2.5
1998	8.8	5.8	3.8	7.8	2.0
1999	9.3	6.8	4.5	8.3	2.5
2000	9.5	6.3	4.3	8.3	2.5
2001	8.8	5.5	3.5	7.3	2.3
2002	8.0	4.8	3.0	6.8	2.3
2003	7.8	4.5	2.8	7.5	2.3
2004	8.0	4.8	3.0	7.0	2.5
2005	8.3	5.0	3.0	6.3	2.3

Risk and Correlation

Wilshire's approach to forecasting long-term risk and correlation is largely based on observed historical asset class behavior. Generally, past relationships serve as very good predictors of future risk and correlation. In practice, Wilshire applies sound financial theory and judgment to the interpretation and analysis of historical results. The role of judgment ('art') versus measured statistics ('science') is more extreme for investment categories with less historical data or that have experienced material structural changes. For example, while we've recently increased our correlation assumptions for TIPS against several other asset classes, Wilshire's assumptions are significantly lower than historical correlations, as the history of TIPS is short (less than nine years) and since there has been no material or sustained occurrence of unanticipated inflation during which TIPS should exhibit its lowest correlation with nominal bonds.

Wilshire places much more confidence in the predictive accuracy of past relationships for asset classes with longer and more robust historical data. In this report we rely upon historical measurements of risk and correlation through 2005 to estimate future risk and correlation. To maximize the quality of our estimates, we observe this historical behavior over various time horizons (i.e. five years, ten years, full history, etc.). Wilshire does not use a preset or static rolling time period to derive these forecasts; as such an approach could result in forward numbers reacting too quickly to what may prove to be short-term relationships or event driven anomalies between markets.

A full listing of Wilshire risk and diversification assumptions for all the asset classes is found in Appendix A.

We would like to thank Peter Matheos from Wilshire Analytics for his assistance in parameterizing the correlation matrices.

Appendix A: Wilshire 2006 Correlation Matrix

	U.S. Stock	Leh Aggr	Citi LPF	LT Treas	Cash	Non-U.S. Stock	Non-U.S. Bond	Emerg Mkt	TIPS	High Yield	REITs	Direct Prop	Prvt Mkts	Cmdty	Hdgd Int'l Stock	Hdgd Int'l Bond	EAFE Stock	U.S. CPI
Expected Return (%	8.25	5.00	5.25	4.75	3.00	8.25	4.75	8.25	4.75	6.50	6.25	5.25	11.75	5.25	8.15	4.65	8.25	2.25
Expected Risk (%)	17.00	5.00	7.00	13.00	1.00	19.00	10.00	25.00	6.00	10.00	16.00	10.00	30.00	12.00	18.00	4.00	19.00	1.00
Cash Yield (%)	1.80	5.00	5.25	4.75	3.00	2.50	4.75	2.50	2.50	6.50	4.50	4.50	0.00	3.00	2.50	4.65	2.40	
Correlations:																		
U.S. Stock	1.00																	
Lehman Aggregate	0.29	1.00																
Citigroup LPF	0.34	0.95	1.00															
LT Treasury	0.19	0.85	0.87	1.00														
Cash Equivalents	0.00	0.10	0.10	0.10	1.00													
Non-U.S. Stock	0.78	0.08	0.09	0.07	-0.10	1.00												
Non-U.S. Bonds	-0.01	0.33	0.34	0.32	-0.10	0.28	1.00											
Emerging Markets	0.61	0.00	0.01	-0.09	-0.05	0.64	-0.04	1.00										
TIPS	0.00	-0.01	0.00	0.00	0.25	0.10	0.01	0.00	1.00									
High Yield Debt	0.48	0.39	0.40	0.21	0.00	0.29	0.01	0.35	0.01	1.00								
REITs	0.30	0.15	0.15	0.10	0.00	0.20	0.05	0.24	0.20	0.30	1.00							
Property (Direct)	0.30	0.15	0.15	0.10	0.00	0.19	0.05	0.25	0.20	0.30	0.90	1.00						
Private Markets	0.73	0.30	0.30	0.16	0.00	0.61	0.12	0.12	0.10	0.31	0.35	0.30	1.00					
Commodities	0.00	0.00	0.00	0.00	-0.05	0.20	0.15	0.24	0.20	0.08	0.25	0.20	0.00	1.00				
Hdgd Non-U.S. Stock	0.74	0.04	0.05	0.03	-0.01	0.77	-0.07	0.46	0.11	0.40	0.19	0.19	0.56	0.15	1.00			
Hdgd Non-U.S. Bond	0.16	0.60	0.59	0.58	0.10	0.21	0.50	-0.01	0.22	0.38	0.00	0.00	0.31	0.00	0.25	1.00		
EAFE Stock	0.74	0.11	0.09	0.13	-0.09	0.92	0.32	0.58	0.18	0.28	0.20	0.20	0.51	0.20	0.79	0.26	1.00	
Inflation (CPI)	-0.10	-0.12	-0.12	-0.12	0.10	-0.15	-0.05	-0.13	0.00	-0.08	-0.10	-0.10	-0.10	0.20	-0.05	-0.08	-0.15	1.00

Appendix B: Wilshire 2006 Private Markets Correlation Matrix

	Buyouts	Venture Capital	Distressed Debt	Mezz Debt	Opport RE	Non-U.S. Pvt Equity	Pvt Mkts Portfolio	U.S. Stocks	Non-U.S. Stocks	Fixed Income	Real Estate	High Yield Bonds	Cash
Expected Return (%)	10.25	12.00	8.75	8.75	8.25	10.00	11.75	8.25	8.25	5.00	6.25	6.50	3.00
Expected Risk (%)	30.00	45.00	20.00	20.00	25.00	35.00	30.00	17.00	19.00	5.00	16.00	10.00	1.00
Correlations:													
Buyouts	1.00							0.70	0.55	0.40	0.35	0.30	0.00
Venture Capital	0.65	1.00						0.60	0.50	0.10	0.30	0.25	0.00
Distressed Debt	0.10	0.05	1.00					0.30	0.25	0.05	0.10	0.55	0.00
Mezzanine Debt	0.50	0.25	0.60	1.00				0.70	0.55	0.20	0.50	0.75	0.10
Opportunistic RE	0.35	0.30	0.10	0.25	1.00			0.35	0.25	0.35	0.70	0.40	0.05
Non-U.S. Pvt Equity	0.78	0.50	0.15	0.30	0.25	1.00		0.60	0.70	0.25	0.20	0.25	0.00
Pvt Mkts Portfolio								0.73	0.61	0.30	0.35	0.31	0.00

Appendix C: Historical 1-Year Rolling Returns: 1926 to 2005

Year	S&P 500 Index	Bond Index	T-bills	CPI
1926	11.6	7.4	3.3	-1.5
1927	37.5	7.4	3.1	-2.1
1928	43.6	2.8	3.5	-1.0
1929	-8.4	3.3	4.7	0.2
1930	-24.9	8.0	2.4	-6.0
1931	-43.4	-1.9	1.1	-9.5
1932	-8.2	10.8	1.0	-10.3
1933	54.0	10.4	0.3	0.5
1934	-1.4	13.8	0.2	2.0
1935	47.7	9.6	0.1	3.0
1936	33.9	6.7	0.2	1.2
1937	-35.0	2.8	0.3	3.1
1938	31.1	6.1	0.0	-2.8
1939	-0.4	4.0	0.0	-0.5
1940	-9.8	3.4	0.0	1.0
1941	-11.6	2.7	0.0	9.7
1942	20.4	2.6	0.3	9.3
1943	25.9	2.8	0.4	3.2
1944	19.7	4.7	0.3	2.1
1945	36.4	4.1	0.3	2.3
1946	-8.1	1.7	0.4	18.2
1947	5.7	-2.3	0.5	9.0
1948	5.5	4.1	0.8	2.7
1949	18.8	3.3	1.1	-1.8
1950	31.7	2.1	1.2	5.8
1951	24.0	-2.7	1.5	5.9
1952	18.4	3.5	1.7	0.9
1953	-1.0	3.4	1.8	0.6
1954	52.6	5.4	0.9	-0.5
1955	31.6	0.5	1.6	0.4
1956	6.6	-6.8	2.5	2.9
1957	-10.8	8.7	3.2	3.0
1958	43.4	-2.2	1.5	1.8
1959	12.0	-1.0	3.0	1.5
1960	0.5	9.1	2.7	1.5
1961	26.9	4.8	2.1	0.7
1962	-8.7	8.0	2.7	1.2
1963	22.8	2.2	3.1	1.7
1964	16.5	4.8	3.5	1.2
1965	12.5	-0.5	3.9	1.9
1966	-10.1	0.2	4.8	3.4
1967	24.0	-5.0	4.2	3.0
1968	11.1	2.6	5.2	4.7
1969	-8.5	-8.1	6.6	6.1
1970	4.0	18.4	6.5	5.5
1971	14.3	11.0	4.4	3.4
1972	19.0	7.3	3.8	3.5
1973	-14.8	2.3	6.9	8.7
1974	-26.4	0.2	8.2	12.4
1975	37.2	12.3	5.8	7.0
1976	24.1	15.6	5.0	4.9
1977	-7.3	3.0	5.4	6.7
1978	6.4	1.4	7.5	9.0
1979	18.5	1.9	10.3	13.3
1980	32.2	2.7	11.8	12.5
1981	-4.9	6.3	14.5	8.9
1982	21.1	32.6	11.1	3.8
1983	22.4	8.4	8.8	3.8
1984	6.1	15.2	9.9	4.0
1985	32.1	22.1	7.7	3.8
1986	18.6	15.3	6.1	1.1
1987	5.2	2.8	5.4	4.4
1988	16.8	7.9	6.7	4.4
1989	31.5	14.5	9.0	4.6
1990	-3.2	9.0	8.3	6.1
1991	30.6	16.0	6.4	3.1
1992	7.7	7.4	3.9	2.9
1993	10.0	9.8	3.2	2.8
1994	1.3	-2.9	4.2	2.7
1995	37.5	18.5	6.1	2.5
1996	23.1	3.6	5.4	3.3
1997	33.3	9.7	5.5	1.7
1998	28.8	8.7	5.4	1.6
1999	21.0	-0.8	4.6	2.7
2000	-9.1	11.6	6.2	3.4
2001	-11.9	8.4	4.4	1.6
2002	-22.1	10.3	1.8	2.4
2003	28.7	4.1	1.2	1.9
2004	10.9	4.3	1.3	3.3
2005	4.9	2.4	3.1	3.4
Winning Percentage:	**63%**	**24%**	**14%**	

Appendix C: Historical 5-Year Rolling Returns: 1926 to 2005

Year	S&P 500 Index	Bond Index	T-bills	CPI
1926-30	8.7	5.8	3.4	-2.1
1927-31	-5.1	3.9	3.0	-3.7
1928-32	-12.5	4.5	2.5	-5.4
1929-33	-11.2	6.0	1.9	-5.1
1930-34	-9.9	8.1	1.0	-4.8
1931-35	3.1	8.4	0.5	-3.0
1932-36	22.5	10.3	0.3	-0.8
1933-37	14.3	8.6	0.2	2.0
1934-38	10.7	7.8	0.1	1.3
1935-39	10.9	5.8	0.1	0.8
1936-40	0.5	4.6	0.1	0.4
1937-41	-7.5	3.8	0.1	2.0
1938-42	4.6	3.8	0.1	3.2
1939-43	3.8	3.1	0.1	4.5
1940-44	7.7	3.3	0.2	5.0
1941-45	17.0	3.4	0.3	5.3
1942-46	17.9	3.2	0.3	6.8
1943-47	14.8	2.2	0.4	6.8
1944-48	10.9	2.4	0.5	6.7
1945-49	10.7	2.2	0.6	5.8
1946-50	9.9	1.8	0.8	6.6
1947-51	16.7	0.9	1.0	4.3
1948-52	19.4	2.0	1.3	2.7
1949-53	17.9	1.9	1.5	2.2
1950-54	23.9	2.3	1.4	2.5
1951-55	23.9	2.0	1.5	1.4
1952-56	20.2	1.1	1.7	0.8
1953-57	13.6	2.1	2.0	1.3
1954-58	22.3	1.0	1.9	1.5
1955-59	15.0	-0.3	2.3	1.9
1956-60	8.9	1.4	2.6	2.1
1957-61	12.8	3.8	2.5	1.7
1958-62	13.3	3.6	2.4	1.3
1959-63	9.8	4.5	2.7	1.3
1960-64	10.7	5.7	2.8	1.2
1961-65	13.2	3.8	3.1	1.3
1962-66	5.7	2.9	3.6	1.9
1963-67	12.4	0.3	3.9	2.2
1964-68	10.2	0.4	4.3	2.8
1965-69	5.0	-2.2	4.9	3.8
1966-70	3.4	1.2	5.4	4.5
1967-71	8.4	3.3	5.4	4.5
1968-72	7.5	5.8	5.3	4.6
1969-73	2.0	5.8	5.6	5.4
1970-74	-2.4	7.6	6.0	6.6
1971-75	3.2	6.5	5.8	6.9
1972-76	4.9	7.4	5.9	7.2
1973-77	-0.2	6.5	6.3	7.9
1974-78	4.3	6.3	6.4	8.0
1975-79	14.8	6.7	6.8	8.1
1976-80	13.9	4.8	8.0	9.2
1977-81	8.0	3.1	9.9	10.1
1978-82	13.9	8.4	11.0	9.5
1979-83	17.2	9.8	11.3	8.4
1980-84	14.6	12.6	11.2	6.5
1981-85	14.6	16.5	10.4	4.8
1982-86	19.7	18.4	8.7	3.3
1983-87	16.4	12.5	7.6	3.4
1984-88	15.4	12.4	7.1	3.5
1985-89	20.4	12.3	7.0	3.7
1986-90	13.2	9.8	7.1	4.1
1987-91	15.4	9.9	7.1	4.5
1988-92	15.9	10.9	6.8	4.2
1989-93	14.5	11.3	6.1	3.9
1990-94	8.7	7.7	5.2	3.5
1991-95	16.6	9.5	4.8	2.8
1992-96	15.2	7.0	4.6	2.8
1993-97	20.2	7.5	4.9	2.6
1994-98	24.1	7.3	5.3	2.4
1995-99	28.6	7.7	5.4	2.4
1996-00	18.3	6.5	5.4	2.5
1997-01	10.7	7.4	5.2	2.2
1998-02	-0.6	7.5	4.5	2.3
1999-03	-0.6	6.6	3.6	2.4
2000-04	-2.3	7.7	3.0	2.5
2001-05	0.5	5.9	2.4	2.5
Winning Percentage:	**74%**	**22%**	**4%**	

Appendix C: Historical 10-Year Rolling Returns: 1926 to 2005

Year	S&P 500 Index	Bond Index	T-bills	CPI
1926-35	5.9	7.1	2.0	-2.6
1927-36	7.8	7.0	1.7	-2.3
1928-37	0.0	6.5	1.4	-1.8
1929-38	-0.9	6.9	1.0	-2.0
1930-39	-0.1	6.9	0.6	-2.0
1931-40	1.8	6.5	0.3	-1.3
1932-41	6.4	7.0	0.2	0.6
1933-42	9.4	6.2	0.1	2.6
1934-43	7.2	5.4	0.1	2.9
1935-44	9.3	4.5	0.2	2.9
1936-45	8.4	4.0	0.2	2.8
1937-46	4.4	3.5	0.2	4.4
1938-47	9.6	3.0	0.2	5.0
1939-48	7.3	2.8	0.3	5.6
1940-49	9.2	2.7	0.4	5.4
1941-50	13.4	2.6	0.5	5.9
1942-51	17.3	2.0	0.7	5.5
1943-52	17.1	2.1	0.8	4.7
1944-53	14.3	2.2	1.0	4.4
1945-54	17.1	2.2	1.0	4.2
1946-55	16.7	1.9	1.1	4.0
1947-56	18.4	1.0	1.3	2.5
1948-57	16.4	2.1	1.6	2.0
1949-58	20.1	1.4	1.7	1.9
1950-59	19.4	1.0	1.9	2.2
1951-60	16.2	1.7	2.0	1.8
1952-61	16.4	2.4	2.1	1.3
1953-62	13.4	2.9	2.2	1.3
1954-63	15.9	2.7	2.3	1.4
1955-64	12.8	2.7	2.6	1.6
1956-65	11.1	2.6	2.8	1.7
1957-66	9.2	3.3	3.0	1.8
1958-67	12.9	1.9	3.1	1.8
1959-68	10.0	2.4	3.5	2.1
1960-69	7.8	1.7	3.9	2.5
1961-70	8.2	2.5	4.3	2.9
1962-71	7.1	3.1	4.5	3.2
1963-72	9.9	3.0	4.6	3.4
1964-73	6.0	3.0	5.0	4.1
1965-74	1.2	2.6	5.4	5.2
1966-75	3.3	3.8	5.6	5.7
1967-76	6.7	5.3	5.7	5.9
1968-77	3.6	6.2	5.8	6.2
1969-78	3.2	6.1	6.0	6.7
1970-79	5.9	7.2	6.4	7.4
1971-80	8.4	5.6	6.9	8.1
1972-81	6.4	5.2	7.9	8.6
1973-82	6.6	7.4	8.6	8.7
1974-83	10.6	8.1	8.8	8.2
1975-84	14.7	9.6	9.0	7.3
1976-85	14.2	10.5	9.2	7.0
1977-86	13.7	10.5	9.3	6.6
1978-87	15.2	10.4	9.3	6.4
1979-88	16.3	11.1	9.2	5.9
1980-89	17.5	12.4	9.1	5.1
1981-90	13.9	13.1	8.7	4.5
1982-91	17.5	14.1	7.9	3.9
1983-92	16.2	11.7	7.2	3.8
1984-93	14.9	11.9	6.6	3.7
1985-94	14.4	10.0	6.1	3.6
1986-95	14.9	9.6	5.9	3.5
1987-96	15.3	8.5	5.8	3.7
1988-97	18.0	9.2	5.9	3.4
1989-98	19.2	9.3	5.7	3.1
1990-99	18.2	7.7	5.3	2.9
1991-00	17.5	8.0	5.1	2.7
1992-01	12.9	7.2	4.9	2.5
1993-02	9.3	7.5	4.7	2.5
1994-03	11.1	6.9	4.5	2.4
1995-04	12.1	7.7	4.2	2.4
1996-05	9.1	6.2	3.9	2.5
Winning Percentage:	**82%**	**13%**	**6%**	

Appendix D: Histogram of 1-, 5-, and 10-Year S&P 500 Index Returns